

HEALTH NEWS

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## Study: 25% of hospital air samples test positive for COVID-19

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Air samples from hospitals tested for COVID-19 rarely contain sufficient amounts of virus to cause disease transmission, a new study has found. Photo by Debbie Hill/UPI | [License Photo](#)

Dec. 23 (UPI) -- One in four air samples collected from hospital intensive care units tested positive for COVID-19 virus particles after they treat infected patients, an analysis published Wednesday by [JAMA Network Open](#) found.

Just over 17% of more than 450 air samples obtained "from close patient environments" and evaluated for virus contamination came back positive, the data showed.

The highest virus concentrations were found in toilets and bathrooms, as well as staff areas and public hallways, suggesting that these areas should be "carefully considered" for stronger cleaning and disinfecting measures, the researchers said.

Although "the air close to and distant from [infected] patients" frequently tested positive for the new coronavirus, most samples contained levels of virus too low to cause disease transmission, they said.

"The results ... suggest the contamination of the air around a hospitalized COVID-19 patient is possible," study co-author Gabriel Birgand told UPI.

"However, the viability of the virus" in these areas is small, which "confirms that the main transmission mode seems to be through droplets and direct contact" with an infected person, said Birgand, an infectious disease pharmacist at Imperial College of London.

Since the start of the pandemic in March, healthcare workers, particularly those treating patients with COVID-19, have been found to be at [increased risk for infection](#), research suggests.

In addition, many people with non-coronavirus-related illnesses have avoided healthcare settings for fear of getting infected from exposure to sick patients or areas of facilities contaminated with the virus, according to [some studies](#).

For this analysis, Birgand and his colleagues reviewed data from 24 studies that evaluated air samples from hospitals for COVID-19 between January and the end of October.

Of the 471 air samples tested in the included studies, 82, or 17%, tested positive for virus particles, the data showed.

Among 107 air samples collected in intensive care units, or ICUs, 25% tested positive for COVID-19, likely due to the fact that many hospitalized patients infected with COVID-19 require ICU care due to heart and lung complications, the researchers said.

Five of 21 samples, or 24%, from hospital toilets and 15 of 122, or 12%, from "staff areas" -- break rooms, for example -- came back positive for the virus, the data showed.

In addition, one third of all public areas, including hospital hallways tested for the virus were positive, the researchers said.

However, air samples collected from patient rooms had the highest virus concentrations, and few if any samples tested had enough virus to promote transmission, the researchers said.

"The airborne transmission remains rare and opportunistic, depending on the procedures performed on patients and the duration of exposure," Birgand said.

"For professionals, the surgical facemask works in most in-hospital circumstances," he said.

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